# GUJARAT TECHNOLOGICAL UNIVERSITY
## BE- SEMESTER–VII EXAMINATION – WINTER 2025

**Subject Code:3170710**                                              **Date:20-11-2025**
**Subject Name:Mobile Computing and Wireless Communication**
**Time:10:30 AM TO 01:00 PM**                        **Total Marks:70**
**Instructions:**
1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**
4. **Simple and non-programmable scientific calculators are allowed.**

| | | | |
|---|---|---|---|
| **Q. 1** | **(a)** | Compare guided media and unguided media. | **3** |
| | **(b)** | Illustrate the effects of multipath propagation. | **4** |
| | **(c)** | Demonstrate the frequency reuse concept in cellular network. State the reason of hexagon shape of a cell. | **7** |
| **Q. 2** | **(a)** | Enlist types of Antenna and Explain any one of them. | **3** |
| | **(b)** | What is Intents? Explain the types of Intents. | **4** |
| | **(c)** | Describe Discovery, Registration, and tunneling process in Mobile IP. | **7** |
| | | **OR** | |
| | **(c)** | Enlist various Android layouts and explain them. | **7** |
| **Q. 3** | **(a)** | Compare FDM vs TDM. | **3** |
| | **(b)** | Write a short note on 1G, 2G, 2.5G and 3G mobile communications. | **4** |
| | **(c)** | What is Modulation? Explain analog modulation with diagram. | **7** |
| | | **OR** | |
| **Q. 3** | **(a)** | Compare Wi-Fi and Wi-Max. | **3** |
| | **(b)** | Draw and explain IEEE 802.11 Architecture. | **4** |
| | **(c)** | What is Spread Spectrum Technology? Explain FHSS technique in detail with diagram. | **7** |
| **Q. 4** | **(a)** | Compare HLR and VLR. | **3** |
| | **(b)** | What is Error Correction? Explain it with example. | **4** |
| | **(c)** | Explain Architecture of GPRS and its application. | **7** |
| | | **OR** | |
| **Q. 4** | **(a)** | Discuss Space Division Multiple Access. | **3** |
| | **(b)** | What is Error Detection? Explain it with example. | **4** |
| | **(c)** | Describe GSM Authentication and security. | **7** |
| **Q. 5** | **(a)** | Discuss Piconet and Scatternet in brief. | **3** |
| | **(b)** | Summarize the need of Packet Switching and Circuit Switching. | **4** |
| | **(c)** | Explain Call Routing in GSM with Block Diagram. | **7** |

**OR**

Q. 5   **(a)**   Define IMSI,MSISDN and IMEI.       **3**

        **(b)**   Explain different propagation modes with necessary diagrams.       **4**

        **(c)**   Draw and explain GSM Network Architecture.       **7**

**************